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Interactive comment on "The effect of climate forcing on numerical simulations of the Cordilleran ice sheet at the Last Glacial Maximum" *by* J. Seguinot et al.

Anonymous Referee #1

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The manuscript of Seguinot et al. presents an interesting comparison of ice sheet simulations forced by different precipitation datasets, in order to quantify their effect on the size of the Cordilleran ice sheet. Overall I find the study well thought out and clear. While the methodology is simplistic by design, this work convincingly shows the importance of accounting for differences in climatological forcing in assessing ice sheet modeling results of the Cordilleran. I think the manuscript is ready for publication, however I would recommend the following small changes.

Section 5.1: Are the temperature climatologies compared after applying a lapse-rate correction when interpolating the reanalyses to the same present-day topography and resolution? This would be important to avoid artificial biases in temperature.

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Page 6184, line 2: “despite of” => “despite”

Page 6184, line 8 (and elsewhere): “A single temperature offset of 5°C is used.” This would be clearer with a minus sign, since it is a negative temperature offset correct? Please check throughout the manuscript.

Section 5.5: In this discussion, please add some sentences about the potential effect of elevation changes on the precipitation fields as the ice sheet evolves. In Section 2.3, it was mentioned that no correction was applied. However, I could imagine that as the dome of the ice sheet grows, a very distinct pattern of precipitation maximum could occur near the margins of the ice sheet. Perhaps, for example, including such a correction would actually make the ice sheets evolve to more similar states after 10ka.

Interactive comment on The Cryosphere Discuss., 7, 6171, 2013.